LIST OF CONTENTS

NUMBER 1

M. S. Cheung and **Wenchang Li**	1	Finite strip method combined with other numerical methods for the analysis of plates
A. Dutta and **D. W. White**	9	Large displacement formulation of a three-dimensional beam element with cross-sectional warping
Cheer Germ Go and **Guang Chyi Chen**	25	On the use of an infinitely small element for the three-dimensional problem of stress singularity
K. H. Ha	31	Exact analysis of bending and overall buckling of sandwich beam systems
B. Kimençe and **M. E. Ergüven**	41	Interaction between cylindrical and shallow spherical shells on the Vlasov model foundation
T. C. Kennedy and **J. B. Kim**	53	Dynamic stress concentrations in micropolar elastic materials
A. V. Avdelas	61	A program for the elastoplastic analysis and design of haunched steel frames
M. E. Owens, A. N. Palazotto and **S. T. Dennis**	69	Transverse shear flexibility in laminated plates undergoing large deflections
M.-H. H. Shen and **Y. C. Chu**	79	Vibrations of beams with a fatigue crack
X.-A. Kong, A. Gakwaya, A. Cardou and **L. Cloutier**	95	A numerical solution of general frictional contact problems by the direct boundary element and mathematical programming approach
L. Jendele and **D. V. Phillips**	113	Finite element software for creep and shrinkage in concrete
J. Mottl	127	Truss system optimization using the 'voting method'
P. A. Bosela, D. G. Fertis and **F. J. Shaker**	143	Grounding of space structures
P. A. Bosela, D. G. Fertis and **F. J. Shaker**	155	A new pre-loaded beam geometric stiffness matrix with full rigid body capabilities
N. Müller-Hoeppe and **P. Wriggers**	165	Numerical integration of viscoplastic material laws at large strains with application to impact problems
		Technical Notes
M. Iura and **T. Iwakuma**	173	Dynamic analysis of the planar Timoshenko beam with finite displacement

W. R Spillers, M. Schlogel and D. Pilla	181	A simple membrane finite element
P. K. Roy and N. Ganesan	185	Some studies on the response of a tapered beam
M. Chirehdast and P. Y. Papalambros	197	A note on automated detection of mobility of skeletal structures
G. Venkateswara Rao, K. Kanaka Raju and N. Rajasekhara Naidu	209	Post-buckling behaviour of circular plates with elastically restrained edges subjected to thermal loads
	I	Software Survey Section

NUMBER 2

Xikui Li and O. C. Zienkiewicz	211	Multiphase flow in deforming porous media and finite element solutions
Jiunn-Ming Chen, Cha'o-Kuang Chen and Ming-I. Char	229	Thermoelastic transient response of an infinitely long annular cylinder composed of three different materials
P. S. Shiakolas, R. V. Nambiar, K. L. Lawrence and W. A. Rogers	237	Closed-form stiffness matrices for the linear strain and quadratic strain tetrahedron finite elements
M. H. Luah and S. C. Fan	243	Analysis of complicated plates by a nine-node spline plate element
A. F. Sayegh and F. K. Tso	253	Finite element analysis of curved beams on a non-linear foundation
E. J. Barbero	263	A 3-D finite element for laminated composites with 2-D kinematic constraints
C. M. L. Wu	273	Elasto-plastic analysis of edge effects in metal matrix angle-ply laminates
E. S. Melerski	281	An efficient computer analysis of cylindrical liquid storage tanks under conditions of axial symmetry
A. B. Trak and R. J. Melosh	297	Passive shape control of space antennas with truss support structures
B. P. Gautham and N. Ganesan	307	Free vibration analysis of thick spherical shells
Y. H. Wu and L. C. Schmidt	315	A boundary element method for prediction of silo pressures
S. Swaddiwudhipong and Y. K. Chow	325	Finite layer analysis of surface foundation

B. P. Jacob and **N. F. F. Ebecken** 333 Adaptive reduced integration method for nonlinear structural dynamic analysis

S. S. Rao, K. Sundararaju, C. Balakrishna and **B. G. Prakash** 349 Multiobjective insensitive design of structures

T. S. Liu and **G. R. Huang** 361 Fatigue reliability of structures based on probability and possibility measures

P. D. Panagiotopoulos and **O. K. Panagouli** 369 Fractal interfaces in structures: methods of calculation

X. Y. Liu and **M. S. Jin** 381 Vibration analysis of plates elastically supported on a nonhomogeneous foundation by nonsingularity BEM

P. Fritzson and **D. Fritzson** 387 The need for high-level programming support in scientific computing applied to mechanical analysis

D. V. Murthy and **D. C. Janetzke** 397 Concurrent processing adaptation of aeroelastic analysis of propfans

Technical Notes

J. E. F. Guimaraes and **G. R. Heppler** 405 On trigonometric basis functions for C^1 curved beam finite elements

J. H. Lee 415 An algorithm in finding partial volumes of 3-D 20-node elements in localization analysis

I Software Survey Section

NUMBER 3

J. P. Dwivedi, P. C. Upadhyay and **N. K. Das Talukder** 421 Parametric assessment of torsional springback in members of work-hardening materials

W. H. Chen and **T. C. Chen** 431 Boundary element analysis for contact problems with friction

Y. J. Chiou and **Y. R. Lin** 439 A study on the fire response of flexibly jointed steel frames

M. S. Qatu and **A. M. Bataineh** 453 Structural analysis of shallow shells on the CRAY Y-MP supercomputer

Yang-Tai Lin, Tien-Tung Chung and **Te-Chang Sun** 461 Dynamic response optimization of nonlinear structures with viscous damping effects for design-dependent cyclic loads

D. S. Hsu and **C. H. Tsai** 471 Crack detection using electric conductive finite elements

J.-C. Luo	481	Analysis of vibration mode shapes on a memory-sharing multiprocessor
P. C. Dumir, D. C. Saha and **S. Sengupta**	495	Dynamic stiffness method for space frames under distributed harmonic loads
H. H. Vaziri and **J. Xie**	505	Buckling of columns under variably distributed axial loads
T. Kant and **J. R. Kommineni**	511	C^0 finite element geometrically non-linear analysis of fibre reinforced composite and sandwich laminates based on a higher-order theory
S. N. Patnaik, D. A. Hopkins, R. A. Aiello and **L. Berke**	521	Improved accuracy for finite element structural analysis via an integrated force method
T. M. Wang, M. F. Ahmad and **B. T. Hsiao**	543	Out-of-plane forced vibrations of multispan circular curved beams
Su-Huan Chen, Tao Xu and **Zhong-Sheng Liu**	553	Nonlinear frequency spectrum in nonlinear structural analysis
J. W. Baugh Jr	557	Using formal methods to specify the functional properties of engineering software
S. A. Guralnick and **Jixing He**	571	A finite element method for the incremental collapse analysis of elastic–perfectly plastic framed structures
K. Hassan	583	Performance of straight-sided finite elements in simply supported curved-edged thin plates
		Technical Notes
K. Nakagawa, K. Andoh and **S. Duan**	587	A design method of structures to minimize the square sum of natural periods of vibration
P. K. Roy and **N. Ganesan**	593	Studies on the response of a square plate with variable thickness excited by uniformly distributed load
E. Manoach and **D. Karagiozova**	605	Impulse loading of an elastic–plastic beam on an elastic foundation
N. I. Ioakimidis and **G. T. Anastasselos**	613	Direct Taylor-series solution of singular integral equations with MAPLE
		Announcements
	619	Call for papers: The Sixth International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems
	620	Call for papers: The Third International Conference on the Application of Artificial Intelligence to Civil and Structural Engineering

621 Call for papers: The Fifth International Conference on Civil and Structural Engineering Computing

622 Call for papers: The Second International Conference on Computational Structures Technology

I Software Survey Section

NUMBER 4

D. K. Singha Roy, J. N. Bandyopadhyay and **D. P. Ray** 623 Comparative study of flanged and rectangular deep beams

H. Matsunaga 633 The application of a two-dimensional higher-order theory for the analysis of a thick elastic plate

R. Berriet and **S. Cogan** 649 Updating finite element models using static deformations

Gin-Show Liou and **Yueh-Yin Kang** 655 Nonlinear responses of a building structure to earthquake excitation

M. C. Ray, K. M. Rao and **B. Samanta** 667 Exact analysis of coupled electroelastic behaviour of a piezoelectric plate under cylindrical bending

N. Bouhaddi and **R. Fillod** 679 Substructuring using a linearized dynamic condensation method

J. M. Dickens and **K. V. Pool** 685 Modal truncation vectors and periodic time domain analysis applied to a cyclic symmetry structure

Dongxu Zhang, Gengdong Cheng and **Yuanxian Gu** 697 Automatic generation of quadrilateral mapping elements and applicability of shape optimization software

J. A. M. Carrer and **J. C. F. Telles** 707 A boundary element formulation to solve transient dynamic elastoplastic problems

C.-L. Liao and **Y.-H. Dang** 715 Structural characteristics of spinning pretwisted orthotropic beams

J. W. Tedesco, B. T. Rosson and **J. A. Melby** 733 Static stresses in dolos concrete armor units

B. T. Jzeng, P. D. Lin and **L. W. Chen** 745 Dynamic stability of bimodulus thick plates

M. V. Dharaneepathy, M. N. Keshava Rao and **A. R. Santhakumar** 755 The influence of geometry on the blast response of circular arches

H. A. Omar and **G. Morris** 765 Plate element for predicting lateral drifts of reinforced concrete flat-plate structures

K. Lee and **E. Nikolaidis**	775	A two-dimensional model for joints in vehicle structures
Tae Won Lee and **Woo Jin Sim**	785	Efficient time-domain finite element analysis for dynamic coupled thermoelasticity
Qin Qing-Hua and **Zhang Qing-Jie**	795	A triangular element of a plate with ten degrees of freedom
		Technical Notes
H. Lima Soriano and **S. de Souza Lima**	799	Structured types in PASCAL for structural analysis
J. M. Stallings and **D. Y. Hwang**	801	Modeling pretensions in bolted connections
D. Redekop and **Y. Zhu**	805	A computer program for stresses in a thick-walled 90° elbow
J. Pietrzak	813	Vector optimization of structures prone to instability
	I	Software Survey Section

NUMBER 5/6

M. Saxena and **R. Perucchio**	817	Parallel FEM algorithms based on recursive spatial decomposition—I. Automatic mesh generation
N. I. Ioakimidis	833	Application of MATHEMATICA to the direct semi-numerical solution of finite element problems
N. S. Bardell	841	The free vibration of skew plates using the hierarchical finite element method
J. M. Stallings and **C. H. Yoo**	875	Analysis of slab-on-girder bridges
F. Erbatur, R. Al Zaid and **N. A. Dahman**	881	Optimization and sensitivity of prestressed concrete beams
F. Erbatur and **M. M. Al-Hussainy**	887	Optimum design of frames
B. P. Gautham and **N. Ganesan**	893	Axisymmetric vibration of layered orthotropic spherical shells of variable thickness
C.-L. Liao and **Y.-S. Tarng**	901	Dynamic response of a workpiece in turning with continuously varying speed
Ting-Yu Chen	911	Structural optimization using single-term posynomial geometric programming
Wenchao Zhang and **K. E. Evans**	919	A FORTRAN program for the design of laminates with required mechanical properties

N. Bouhaddi and **R. Fillod**	941	A method for selecting master DOF in dynamic substructuring using the Guyan condensation method
P. Temin-Gendron and **P. Laurent-Gengoux**	947	Calculation of limit loads for composite materials via equilibrium finite elements
K. Ramachandran	959	System reliability using trivariate and bivariate integrals
F. W. Liou and **J. D. Liu**	965	Optimal design of flexible mechanisms using a parametric approach
B. Tabarrok and **Z. Qin**	973	Nonlinear analysis of tension structures
L. Ascione and **F. Fraternali**	985	A penalty model for the analysis of curved composite beams
A. Rosen, R. G. Loewy and **M. B. Mathew**	1001	Nonlinear analysis of anisotropic rods using curvature transformation and including warping
P. D. Andriotaki-Panayotounakou	1019	Three-dimensional static analysis of a spatially loaded planar rigid-jointed plexus frame
O. G. McGee and **T. S. Butalia**	1033	Natural vibrations of shear deformable cantilevered skewed trapezoidal and triangular thick plates
N. Khader and **R. Abu-Mallouh**	1061	A structural dynamics study of a wing–pylon–tiltrotor system
Shen PengCheng, He PeiXing and **Su Ganlon**	1073	Stability analysis for plates using the multivariable spline element method
		Compendium
E. C. Kalkani	1079	Stress analysis of the concrete housing of a water intake structure
		Technical Notes
K. E. Evans, K. L. Alderson and **P. R. Marks**	1089	Modelling of the transverse loading of filament wound pipes
Ming-Jenq Twu and **Bo Ping Wang**	1097	A new method for contour plotting in finite element analysis
V. Ramamurti and **C. Sujatha**	1103	Predictions on the dynamic stresses on practical cement mills using cyclic symmetry
G. Ya. Estrin	1109	Determination of bending moments in semi-rigid steel framing joints
		Announcements
	1119	Call for papers: The Third International Conference on the Application of Artificial Intelligence to Civil and Structural Engineering
	1120	Call for papers: The Fifth International Conference on Civil and Structural Engineering Computing

1121 Call for papers: The Second International Conference on Computational Structures Technology

I Software Survey Section

i List of Contents and Author Index for Volume 45, 1992